

The Center for Defense Information conducts in-depth research on the social, economic, environmental, political and military components of international security. CDI aims to educate the public and inform policymakers on issues of security policy, strategy, operations, weapon systems and defense budgeting, and to produce creative solutions to them.

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Nuclear Recollections

By Bruce G. Blair, President

Rear Adm. Eugene (Gene) Carroll, our beloved colleague who passed away this February, often shared with me his recollections of the role he once played in planning for nuclear war. As quoted in his obituary in the *Washington Post*, Gene once wrote: "During the horrible confrontation with the Soviet Union we called the Cold War, I frequently stood nuclear alert watch on aircraft carriers. For a period of time my assigned target was an industrial complex and transportation hub in a major city in Eastern Europe. . . . My bomb alone would have resulted in

the death of an estimated 600,000 human beings. Multiply that by 40 or 50 times and you can understand what two carriers alone would have done."

Gene and I felt similarly about the impact that our military experiences with nuclear weapons had on our thinking. And we reached the same conclusions about their lack of military utility and about the immorality of their use.

As a Minuteman missile launch officer during the 1970s, I "fought" about 100 nuclear wars in mock underground launch centers in Califor-

nia and Montana. Testers behind a panoramic one-way mirror at our backs watched every move my crewmate and I took. The consoles before us rang bells, spit out print-outs, and sent voice and print messages from the mock chain of command. Every blinking light and alarm and message had been carefully scripted by the master computer. We waited for the opening computer move with apprehension. Only the testers, themselves seasoned launch officers, knew the sequence of events that would unfold

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In Memoriam

It is with deep sadness that CDI must share the news of the recent passing of two of the organization's strongest supporters.

Harold Willens, a co-founder of The Center for Defense Information, died March 17. His wise counsel and financial support sustained CDI in its early years. His efforts on behalf of nuclear nonproliferation helped set a direction for the organization's work. The passion and energy he devoted to the cause of peace will live on as an inspiration to his col-

leagues and the CDI staff.

Rear Adm. Eugene J. Carroll, Jr., U.S. Navy (Ret.), passed away on Feb. 19. Adm. Carroll joined CDI after a 35 year naval career, and was with the organization for 17 years, serving briefly as its director, until he retired in 2001. He was the conscience of CDI and will live on in the hearts and memories of his friends and colleagues at CDI and throughout the world.

Adm. Carroll's family requests that donations in lieu of flowers and other

gifts be made to a CDI memorial fund established in his name. Your contributions will support a special future CDI program to be approved by the Carroll family.

Tax-deductible contributions may be submitted by calling Judy Edwards at 202-797-5260.

Alternatively, checks may be sent to:

Center for Defense Information
Adm. Eugene Carroll Memorial Fund
1779 Massachusetts Ave., N.W.
Washington, D.C. 20036

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before us. It was the ultimate beat-the-clock pop quiz.

We had butterflies before and during every simulation. As we yelled back and forth our reading of the unfolding scenario and advice on how we should react to the latest sounds and sights in our control post, we sometimes succumbed to bloomin-buzzin confusion. This usually happened when forced to open up several checklists at once to deal simultaneously with, say, an equipment fire in our control post and a buzzer alarm indicating a break-in at one of the 50 distant missile silos linked to us by underground cable. We would madly try to figure out which calamity took precedence, and run through the checklists before the master computer laid another mind-bending trip on us.

Our confidence surged knowing we were having a “good ride” in the simulator, or collapsed when we felt hopelessly confused or knew we made a major mistake. A crew’s status and reputation are on the line. Committing a single critical error results in a loss of face within the tight-knit missile crew force. It also may mean a lot of remedial training. To be de-certified as a crewmember means that one is no longer eligible to pull alert duty at the real-world underground launch centers. Flunking the test puts an extra burden on others. Friends will work extra shifts until you are re-certified.

It’s nerve-wracking because it’s easy to make a critical mistake. If we decoded a message incorrectly and dialed a single wrong digit into the

computer that targeted our missiles, we might attack and destroy cities instead of rural missile silos in Russia. We could have easily killed millions of civilians by mistake.

We were usually still processing checklists when a warble tone signifying an incoming missile attack would be heard on our loudspeaker. We would hurriedly, sometimes frantically, strap into our chairs. In the real world, we would expect a violent shaking of our capsule mounted on giant shock absorbers. But in the mock run we were blasé and continued to race through the checklists.

We knew there was a system to the madness. The drill led us inexorably up the ladder of escalation, from a minor fire or incident to a full-blown order to unleash all 50 missiles. We had been conditioned, like Pavlov’s dogs, to expect certain war orders to flow in a certain sequence, culminating in the launch of all 50 missiles. It was classic conditioned reflexes with absolute psychological certainty that it would end in a hypothetical all-out nuclear war.

There was no feeling of dread or guilt as we decoded the launch order and marched through the two-minute launch drill. We checked the top secret codes in the message using sealed-envelope codes kept in our lunchbox-sized safe. In the simulator, they almost always matched. We retrieved the two launch keys from the same safe and inserted them into the special switches next to our consoles. The launch order reveals the war plan and a couple of keystrokes would send our missiles the proper target coordinates. The computers onboard the missiles have files of wartime coordinates and automatically switch targets in a fraction of a second. We

read an 8-digit code from the launch order and dialed it into a panel near my chair. This code unlocked the missiles and enables them to receive the next and last computer instruction from me and my crewmate – the “fire” signal that ignites the motors and propels the missiles half way around the planet in 30 minutes.

No more than two minutes elapsed between the time of the launch order’s arrival and our final key-turn. This is not an exercise of rational thought or leadership. It is nuclear war by rote, by checklists and robotic human action, albeit robots feeling butterflies and stress to do the job well. But no feelings whatsoever existed for the consequences at the other end of the missiles’ trajectories. Fifty missiles could easily kill many tens of millions of Russians – or Chinese or any other nationality in our cross-hairs. And we knew the aimpoints included multiple strikes on Moscow and Beijing.

But this antiseptic mock drill officially ended when the missiles left their silos. The exercise concentrates the mind on little green and red lights on the consoles, the last in the sequence reporting “missile away” in green. It was a question of getting the local job done right, getting debriefed by our evaluators behind the mirror, and going home. Everything else was above our pay grade.

No little lights of conscience flickered in our minds. Launch officers in their early twenties, like myself, rarely struggled with the moral question of following orders that potentially could kill so many innocent civilians. It was all rationalized in the name of ‘deterrence.’

This has not changed over the many decades of nuclear vigil main-

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tained in launch centers. I have returned on occasion, most recently last year, to the great plains of the country to discuss launch duties with freshly minted crewmembers. I am always struck by their attitudes and rationalizations for preparing to fight a nuclear war. They could have been me decades ago. The Cold War has reportedly ended since I served, but nothing much has changed in

the sterile nuclear netherland. New crewmembers go to war using computers in a "Windows"-like manner instead of fumbling with grease pencils, but still many thousands of targets remain in their nuclear crosshairs. Emotionally, it's exactly the same. The strongest emotion was, and still is, the feeling of satisfaction and crew camaraderie for having pushed the right buttons at the right time in a simulated nuclear war.

Perhaps more profound questions would weigh on the hearts and minds of the young men and women

manning the consoles if the fateful order someday comes. But in any case, we have only ourselves to blame for putting them in such a morally untenable position. The thought that my son, or daughter even, might someday be expected to stand ready to fire nuclear missiles fills me with moral revulsion at our failed leadership in the world. It would not be his or her fault that we as a nation, having suspended our morality during the Cold War, lacked the vision and sensibility to stand down now that it's over. ■

2004 BUDGET REQUESTS

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defense combat patrols over the United States. These activities account for roughly \$10 billion annually, or less than 3 percent of the proposed FY 04 budget. And only the air combat patrols, which cost roughly \$2 billion, are new functions requiring new resources.

One of the Defense Department's highest stated priorities is "transformation"—the development of technologies and programs intended to make the military more agile, lethal, and better able to conduct joint operations involving more than one of the military services. Pentagon Comptroller Dov Zakheim has indicated that \$24 billion in FY 04 will be dedicated to transformational technologies. In all, the FY 04 budget request contains \$135 billion for research and procurement, the lion's share of which goes for the development and purchase of new weapons.

Yet transformational programs account for only 18 percent of this total. Of that amount, nearly \$10 billion dol-

lars will go for missile defense programs, leaving roughly 10 percent to fund transformation. Further, additional funds will go for other programs such as the Navy's "Virginia" class submarine and the Army's "Comanche" helicopter that have been deemed "transformational," but which actually represent traditional Pentagon priorities. And while the Bush administration campaigned on a program of funding new research and development and transformation by terminating certain Cold War weapon systems, no major weapons programs are cancelled in the FY 04 budget.

The simple fact is, when it comes to the defense budget, we do not actually get what we think we are buying. Since the Sept. 11, 2001, attacks the an-

nual defense budget has increased by roughly \$55 billion, and will reach over one-half trillion dollars by the end of the decade. Yet despite these increases, the expected goals of higher military spending—prevent-

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Fiscal Year 2004 Funding Requests for Major Weapons

	\$ in Millions
Ballistic Missile Defense	9,800.9
F/A-18E/F Fighter	3,210.2
F-22 Fighter	5,170.2
Joint Strike Fighter	4,365.8
C-17 Transport Aircraft	3,686.3
B-2 Bomber	260.2
V-22 Osprey Aircraft	1,654.0
RAH-66 Comanche Helicopter	1,079.3
Aircraft Carrier Replacement Program (CVNX)	1,525.8
DDG-51 Destroyer	3,404.0
SSN-774 "Virginia" Attack Submarine	2,640.5
Trident II D-5 Missile	780.0
Tactical Tomahawk Cruise Missile	349.0

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